

CLAIMS

WHAT IS CLAIMED IS:

1. A component mounting device in which an electronic component is mounted on a circuit substrate,
5 comprising:

a means for measuring an amount of displacement between a center position of a component suction nozzle and a center position of the component held by the component suction nozzle with respect to each of the components fed from all
10 parts cassettes set in a component feeding unit during the component mounting device is in operation, informing that a particular parts cassette from which the component has been fed is in abnormal condition when the amount of displacement is larger than a predetermined value, and for stopping the
15 action of mounting the component.

2. A component mounting device in which an electronic component is mounted on a circuit substrate,
comprising:

a means which measures an amount of displacement
20 between a center position of a component suction nozzle and a center position of a component held by the component suction nozzle, and detects and informs that a particular component suction nozzle or parts cassette from which the component has been fed is in abnormal condition based on resultant data of
25 measurement, wherein

the component is respectively picked up by the component suction nozzle from all of the parts cassettes set in a component feeding unit and measurement of the

displacement amount of the component is effected in a preparatory step before commencement of actual production.

3. A component mounting method wherein a component which is fed from a multiplicity of parts cassettes set in a component feeding unit is picked up successively by a component suction nozzle at a component pick-up position of the parts cassettes and is in succession mounted onto a circuit substrate, comprising the steps of:

measuring an amount of displacement of the component with respect to the component suction nozzle;

informing that a parts cassette from which the component being held by the component suction nozzle is in abnormal condition when the measured amount of displacement of the component is larger than a predetermined value based on resultant data of measurement; and

stopping a mounting operation for mounting the component of which parts cassette has been detected to be in abnormal condition.

4. The component mounting method according to claim 3 in which the amount of displacement of the component is obtained by measuring a distance between a center position of the component suction nozzle and a center position of the component which is held by the component suction nozzle.

5. The component mounting method according to claim 3 in which abnormality of the parts cassette is informed and the mounting operation is stopped when the amount of displacement of the component is such as would cause the component suction nozzle to interfere with a component which

has previously been mounted.

6. A component mounting method wherein a component which is fed from a multiplicity of parts cassettes set in a component feeding unit is picked up successively by a
5 component suction nozzle at a component pick-up position and is in succession mounted onto a circuit substrate, comprising the steps of:

in a preparatory step before an actual manufacturing operation is started, picking up respective components from
10 all of the parts cassettes set in the component feeding unit,

measuring an amount of displacement of each of the components with respect to the component suction nozzle;

detecting and informing that a nozzle or a parts cassette is in abnormal condition.

15 7. The component mounting method according to claim 6 in which the amount of displacement of the component is obtained by measuring a distance between a center position of the component suction nozzle and a center position of the component which is held by the component suction nozzle.

20 8. A component mounting method wherein a component which is fed from a multiplicity of parts cassettes set in a component feeding unit is picked up successively by a component suction nozzle at a component pick-up position of the parts cassettes and is in succession mounted onto a
25 circuit substrate, comprising the steps of:

measuring an amount of displacement of the component with respect to the component suction nozzle; and

adjusting the component pick-up position of the parts

cassette which requires position adjustment based on resultant data of measurement.

5 9. A method of mounting an electronic component in which a plurality of parts cassettes respectively accommodating different types of electronic components are moved by a component feeding unit to a component pick-up position in a mounting order for feeding electronic components, and a plurality of component suction nozzles are successively moved along a circular track from the component pick-up position, where the component suction nozzle picks up the electronic component, to a posture recognizing position, where the posture of the electronic component held with the component suction nozzle is detected, based on which the position and angle of the electronic component in relation to a predetermined position on a circuit substrate are corrected, and further to a component mounting position, where the picked-up electronic component is mounted on the predetermined position on the circuit substrate, comprising the steps of:

10 20 obtaining data on an amount of displacement of the component from a prescribed holding position of the component suction nozzle corresponding to each of the parts cassettes based on posture recognition results detected at the posture recognizing position; and

25 adjusting a feeding position of the electronic component to the component pick-up position based on this displacement amount data.

10. The method of mounting an electronic component

according to claim 9, in which the position of the component feeding unit or the placing position of the parts cassettes onto the component feeding unit is adjusted based on the displacement amount data.

5 11. The method of mounting an electronic component according to claim 9, in which the component feeding position from each of the parts cassettes toward the component pick-up position is adjusted based on the displacement amount data.

10 12. A device for mounting an electronic component in which a plurality of parts cassettes respectively accommodating different types of electronic components are moved by a component feeding unit to a component pick-up position in a mounting order for feeding electronic components, and a plurality of component suction nozzles are
15 successively moved along a circular track from the component pick-up position, where the component suction nozzle picks up the electronic component, to a posture recognizing position, where the posture of the electronic component held with the component suction nozzle is detected, based on which the
20 position and angle of the electronic component in relation to a predetermined position on a circuit substrate are corrected, and further to a component mounting position, where the picked-up electronic component is mounted on the predetermined position on the circuit substrate, comprising:

25 a displacement amount data processing means for obtaining data on an amount of displacement of the electronic component from a prescribed holding position of the suction nozzle corresponding to each of the parts cassettes based on

posture recognition results detected at the posture
recognizing position, and

a drive means for moving the component feeding unit or
the parts cassette so as to adjust the component feeding
position to the component pick-up position in a direction for
correcting the amount of displacement of the electronic
component which is obtained from the displacement amount data.

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